

Claims

1. An audio output apparatus characterized by comprising:

measuring means for measuring levels of a plurality of inputted sound signals;

sound level adjusting means for adjusting gains based on the levels measured by the measuring means and outputting the plurality of sound signals in equal magnitudes; and

an array speaker unit which emits a plurality of sounds in accordance with the plurality of sound signals outputted from the sound level adjusting means in different directivities, respectively.

2. The audio output apparatus according to claim 1, characterized in that:

the measuring means separates the plurality of the sound signals into a plurality of frequency bands to measure levels, and

the sound level adjusting means assigns weights on the measured levels of the frequency bands with a predetermined weight for each of the frequency bands, adjusts the gains based on the weighted levels of the individual frequency bands, and outputs the plurality of the sound signals in equal magnitudes.

3. The audio output apparatus according to claim 1, characterized in that:

the measuring means separates the plurality of the sound signals into a plurality of frequency bands to measure levels, and

the sound level adjusting means adjusts and outputs gains so that the plurality of the sound signals is made to have equal magnitudes for each of the frequency bands based on the measured levels of the respective frequency bands.

4. An audio output apparatus characterized by comprising:

measuring means for measuring levels of a plurality of inputted sound signals;

sound level adjusting means for adjusting gains based on the levels measured by the measuring means and outputs a plurality of sound signals so that a level difference between at least two sound signals specified by a viewer is made constant among the plurality of the sound signals; and

an array speaker unit which emits a plurality of sounds in accordance with the plurality of the sound signals outputted from the sound level adjusting means

in different directivities respectively.

5. An audio output apparatus characterized by comprising:

measuring means for measuring levels of a plurality of inputted sound signals;

compression means for compressing a plurality of dynamic ranges of the sound signals to a predetermined value or below based on the levels measured by the measuring means and outputting a plurality of sound signals after the dynamic ranges are compressed; and

an array speaker unit which emits a plurality of sounds in accordance with the plurality of the sound signals outputted from the compression means in different directivities respectively.

6. An audio output apparatus characterized by comprising:

frequency control means for limiting or emphasizing frequency bands of a plurality of inputted sound signals; and

an array speaker unit which emits a plurality of sounds in accordance with the plurality of the sound signals outputted from the frequency control means in different directivities respectively.

7. An audio output apparatus characterized by comprising:

a measuring circuit which measures levels of a plurality of inputted sound signals;

a gain control circuit which refers the levels measured by the measuring circuit and sets a gain coefficient to each of the sound signals;

a sound level adjusting circuit which adjusts the levels of the sound signals based on the set gain coefficient; and

an array speaker unit to which a plurality of sound signals adjusted at the level is inputted and which emits a plurality of sounds in accordance with the plurality of the sound signals in different directivities respectively.

8. The audio output apparatus according to claim 7, characterized in that the gain control unit sets the gain coefficient so that the plurality of the levels of the sound signals inputted is nearly equal to each other.

9. The audio output apparatus according to claim 7, characterized in that the gain control unit includes an offset generating circuit which adds a certain amount

of an offset amount to at least one level among the levels measured by the measuring circuit.

10. The audio output apparatus according to claim 7, characterized in that the gain control unit sets the gain coefficient so that dynamic ranges of the plurality of sound signals inputted to the array speaker unit is made to have a predetermined value or below.

11. The audio output apparatus according to claim 7, characterized by further comprising a band pass filter to which a plurality of sound signals is inputted and which limits a frequency band of the sound signal.

12. The audio output apparatus according to claim 11, characterized in that the sound signal limited in the frequency band by the band pass filter is outputted to the measuring circuit.

13. The audio output apparatus according to claim 11, characterized in that the sound signal limited in the frequency band by the band pass filter is outputted to the sound level adjusting circuit.

14. The audio output apparatus according to claim

13, characterized in that the sound signal limited in the frequency band at the band pass filter is outputted to the sound level adjusting circuit.